

THE SIPRO PRE-PLE SET I 2024

MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Index No.

EMIS NO.	Personal No.

Candidate's Name: _____

Candidate's Signature: _____

School EMIS No. _____

District ID: _____

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This paper has two sections: A and B.
2. Section A has 20 questions (40 Marks).
3. Section B has 12 questions (60 Marks).
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or ink. Only diagrams and graph work must be done in pencil.
6. Unnecessary alteration of work will lead to loss of marks.
7. Any handwriting that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated:

"FOR EXAMINER'S USE ONLY"

For Examiner's Use Only:

Qn. No	MARKS	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
Total		

Please turn over



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SECTION A: 40 MARKS

Attempt all questions in this section
Questions 1 to 20 carry two marks each.

1. Work out:

$$\begin{array}{r} 2 & 1 & 4 \\ + & & \\ \hline 5 & 3 \end{array}$$

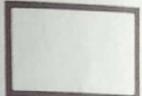
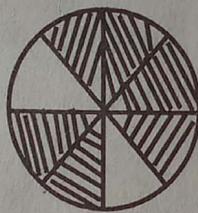
2. Write 14,019 in words.

3. Solve for e: $e - 6 = 11$

4. Subtract: days hours

$$\begin{array}{r} 9 & 3 \\ - 2 & 4 \\ \hline \end{array}$$

5. Use the diagram below to find the shaded percentage.

6. Given that set $W = \emptyset$, how many subsets has set W ?

7. Complete the sequence;

1, 3, 6, 18, 36, _____



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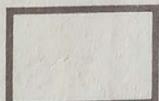
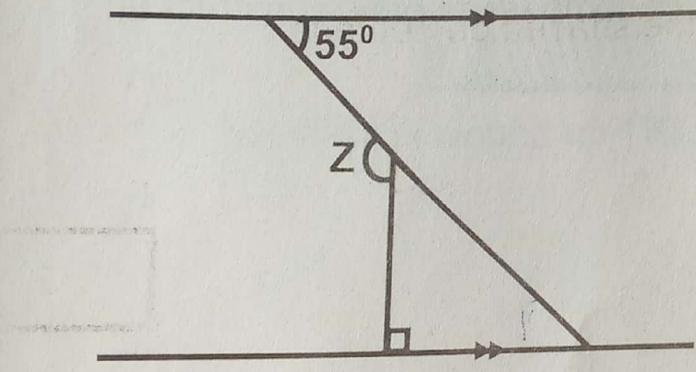
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8. The volume of a cube is 27cm^3 . Work out its total surface area.

9. The probability of electing a boy as a class monitor is $\frac{5}{9}$. If there are 36 girls, how many boys are in the class?

10. Calculate the size of angle marked Z in degrees.



11. Find the value of w: $3w = 4 \pmod{7}$



12. A hawker bought 3 dozens of exercise books at sh. 13,500.

4

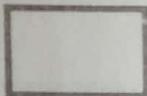
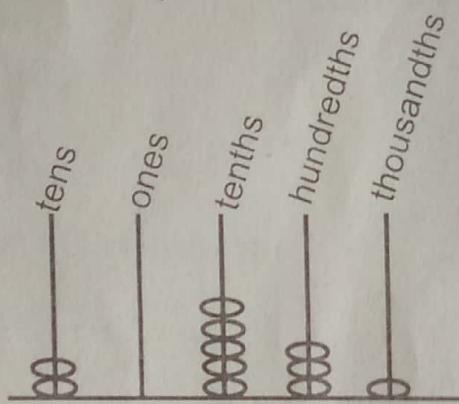
He later sold each exercise book for sh. 2,200. Calculate his profit.

13. Solve and write the solution set for p.

$$6 \leq 2p < 10$$

14. Using a ruler, a pencil and a pair of compasses only, construct an angle of 60° .

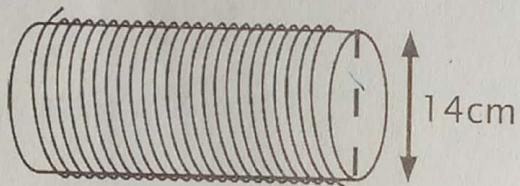
15. Find the number represented on the abacus below.



16. A science quiz which ended at 4:15 p.m. took 90 minutes. At what time did it start?

17. Oliva bought a television set at Ug sh. 2,190,000. If one US dollar costs Ug sh. 3,650, how many US dollars did she pay?

18. In the diagram below, a string is wound round a cylindrical pipe of diameter 14cm.



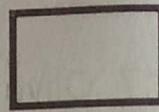
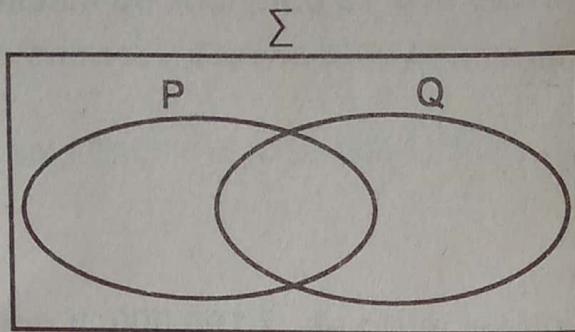
If the string is wound up 100 times, how long is the string?

19. Work out:

$$\frac{b^4 \times b^3}{b^5}$$



20. Shade set Q complement in the figure below.



SECTION B: 60 MARKS

Attempt *all* questions in this section.

Marks for each part of the question are indicated in the brackets.

21. Babirye bought the following items from the shop:

- 2kg of cowpeas at sh. 4,000 per kg.
- 12 oranges at sh. 1,500 for every 4 oranges.
- 2,500g of rice at sh. 6,000 per kg.
- watermelons at sh. 10,000.

(a) Work out her total expenditure.

(04 marks)

(b) If she was given a discount of 5%, how much did she pay? (02 marks)



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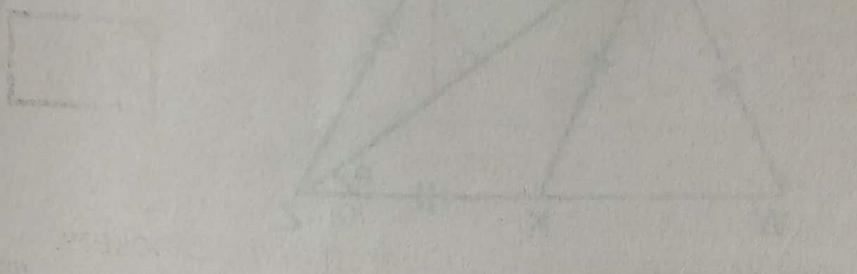
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22. In a class, $33\frac{1}{3}\%$ of the pupils like football, $\frac{2}{5}$ of the remaining

pupils like Hockey and the rest like Tennis ball. If 30 pupils like Tennis ball;

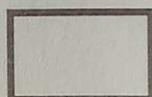
(a) Work out the fraction of pupils who like Hockey.

(02 marks)



(b) Calculate the total number of pupils in the class.

(03 marks)



23(a) Write the place value of 3 in 321_{five} .

(01 mark)

(b) Find the value of 3 in (a) above.

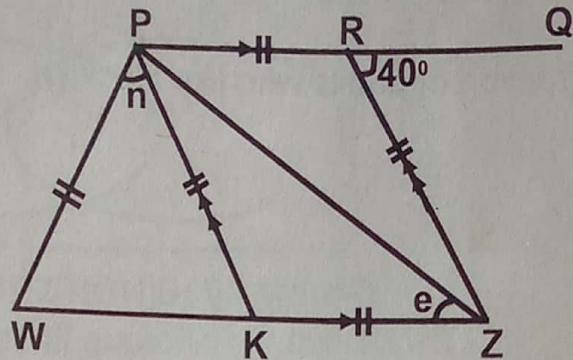
(02 marks)

(c) Expand 321_{five} using exponents.

(02 marks)



24. In the figure below, line **PQ** is parallel to line **WZ** and angle $QRZ = 40^\circ$. Study it carefully and answer the questions that follow.



(a) Find the size of angle **e**.

(02 marks)

(b) Work out the size of angle **n**.

(03 marks)

25.(a) Solve for **b**: $2(b+4) = b+10$

(02 marks)



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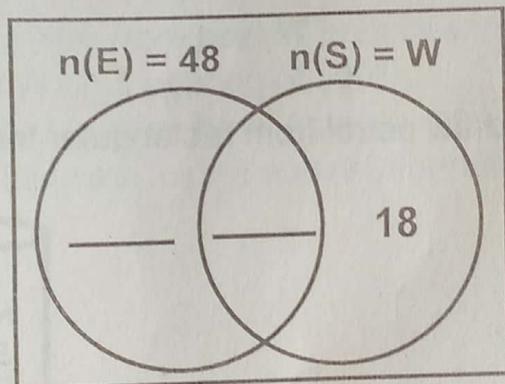
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(b) At a supermarket, a basin costs sh. 3,000 more than a bucket. A saucepan costs **two fifths** of the cost of a bucket. If all items cost sh. 33,000, calculate the cost of a bucket. (03 marks)

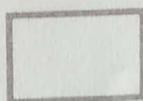
26. In a group of pupils, **48** like English (E), **W** pupils like Social studies (S). A third of the pupils who like English also like Social studies and **18** pupils like Social studies only.

(a) Complete the venn diagram below using the information above.

(03 marks)



(b) What is the probability of picking a pupil who does not like both subjects? (02 marks)



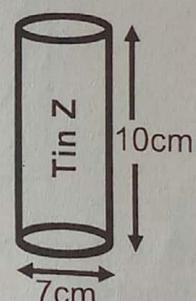
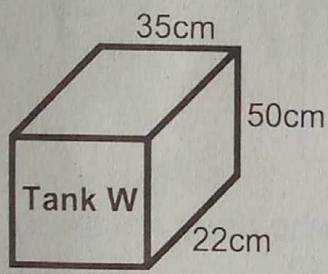
27. A motorist left Bushenyi at **9:45a.m.** and reached Masaka at **11:15 a.m.** at a speed of **60km/hour**. After staying in Masaka Town for 30 minutes, he moved back to Bushenyi using the same route at a speed of **30km/h**.

(a) How far is Masaka from Bushenyi?

(02 marks)

(b) Calculate the motorist's average speed for whole journey. **(03 marks)**

28. Tin (Z) was used to draw petrol from rectangular tank (W) which was full of petrol.



(a) How many full tins (Z) of petrol were drawn from the tank W?

(03 marks)



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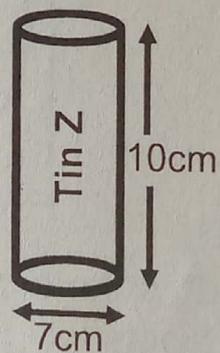
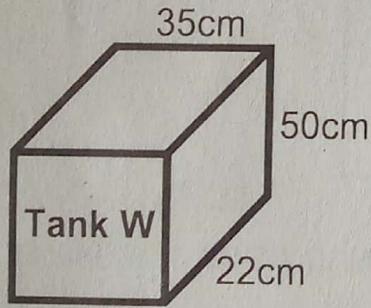
IGNITE CRITICAL THINKING & EXPERIENCE ACTUAL LEARNING WITH THE ACTIVITY BOOKS, SEMAS, TR'S GUIDES & PUPIL'S COMPANIONS.

27. A motorist left Bushenyi at **9:45a.m.** and reached Masaka at **11:15 a.m.** at a speed of **60km/hour**. After staying in Masaka Town for 30 minutes, he moved back to Bushenyi using the same route at a speed of **30km/h**.

(a) How far is Masaka from Bushenyi? **(02 marks)**

(b) Calculate the motorist's average speed for whole journey. **(03 marks)**

28. Tin (Z) was used to draw petrol from rectangular tank (W) which was full of petrol.



(a) How many full tins (Z) of petrol were drawn from the tank W?

(03 marks)

(b) If each full tin of petrol costs sh. 25,000, how much money is needed to fill tank W?

(02 marks)

29(a) Write 394.72 in standard form.

(02 marks)

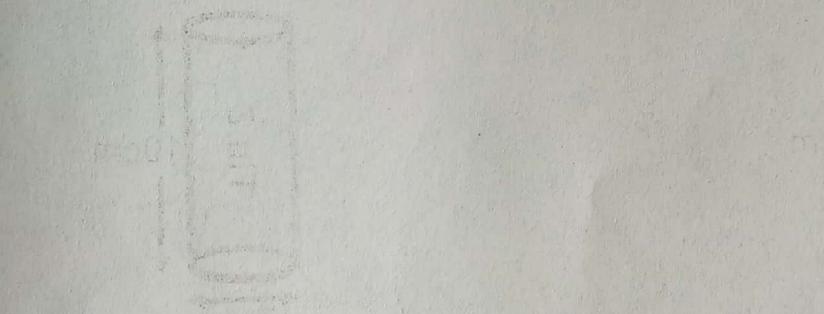
(b) Solve for k: $3^{2k} \times 3^2 = 81$

(02 marks)

30. Port K is 80km from port W on a bearing of 060° . Port Y is 60km from port W on a bearing of 300° .

(a) Using the scale drawing of 1cm to represent 10km, draw an accurate diagram for the above information.

(04 marks)



(b) Find the shortest distance from port K to port Y in km.

(01 mark)



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31. The pictograph below represents tomatoes sold in a market per day by Mrs. Ssebuggwawo.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Note: represents 10 tomatoes.

(a) How many tomatoes were sold on Thursday?

(01 mark)

(b) How many more tomatoes were sold on Friday than on Tuesday?

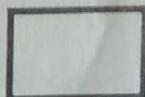
(02 marks)

(c) Express the number of tomatoes sold on Monday as a percentage of the total number.

(02 marks)

32(a) Work out: $\frac{0.24 + 0.6}{1.2 \times 0.01}$ (03 marks)

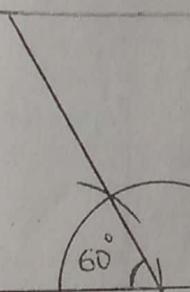
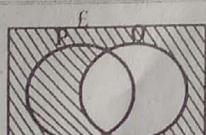
(b) Simplify: $1\frac{1}{6} \times 1\frac{1}{7} \div 2\frac{2}{3}$ (02 marks)



THE SIPRO PRE PLE SET 1 MATHEMATICS MARKING GUIDE - 2024

NO	LEVEL	SOLUTION	AWARD	REASON	COMMENT												
1.	P.3	$ \begin{array}{r} 2 \ 1 \ 4 \\ + 5 \ 3 \\ \hline 2 \ 6 \ 7 \end{array} $	B ₂	For the sum	Operate and involve word statements.												
2.	P.4	$14.019 = 14000 + 19$ Fourteen thousand, nineteen	B ₁	For the expansion	Accept Thousand units												
3.	P.5	$ \begin{aligned} c - 6 &= 11 \\ c - 6 + 6 &= 11 + 6 \\ c &= 17 \end{aligned} $	M ₁	For the method	Expose candidates to a variety of equations.												
4.	P.6	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>Days</td> <td>hours</td> <td>1 day = 24 hours</td> </tr> <tr> <td>9</td> <td>3</td> <td>24+3=27</td> </tr> <tr> <td>-2</td> <td>14</td> <td>27-14=13</td> </tr> <tr> <td>6</td> <td>13</td> <td></td> </tr> </table>	Days	hours	1 day = 24 hours	9	3	24+3=27	-2	14	27-14=13	6	13		M ₁	For the method	Operate and regroup weeks and days, years and months etc.
Days	hours	1 day = 24 hours															
9	3	24+3=27															
-2	14	27-14=13															
6	13																
5.	P.6	$ \begin{aligned} \frac{6}{8} \times 100\% \\ \frac{3}{48} \times 100\% \\ (3 \times 25)\% \\ 75\% \end{aligned} $	M ₁	For the method	Help candidates to identify the shaded and unshaded regions.												
6.	P.6	Number of subsets = 2^n $2^0 = 1$ Set W has one subset.	B ₁	For the 2^0	Revisit listing of subsets and proper subsets.												
7.	P.7	$ \begin{array}{ccccccc} 1, & 3, & 6, & 18, & 36, & 108 \\ \swarrow x3 & \searrow x2 & \swarrow x3 & \searrow x2 & \swarrow x3 \\ 3 & 6 & & & \\ \searrow x3 & & & & \\ 108 & & & & \end{array} $	M ₁	For the pattern	Encourage candidates to always identify the pattern.												
8.	P.7	$L \times L \times L = \text{volume}$ $L^3 = 27 \text{ cm}^3$ $\sqrt[3]{L^3} = \sqrt[3]{27 \text{ cm}^3}$ $L = 3$ Length = 3cm T.S.A = $6(S^2)$ $= 6(3 \text{ cm} \times 3 \text{ cm})$ $= 6 \times 9 \text{ sq cm}$ $= 54 \text{ sq.cm}$	B ₁	For the length	Make a review on finding volume and area of different shapes.												
9.	P.7	$ \begin{aligned} 1 - \frac{5}{9} \\ \frac{9}{9} - \frac{5}{9} = \frac{9-5}{9} \\ = \frac{4}{9} \text{ girls} \end{aligned} $ <p>Let the total no be k $\frac{4}{9} \text{ of } k = 36$</p>			Revisit probability of the dice, of the items, of weeks etc.												

		$9 \times 4k = 36 \times 9$ $\cancel{9} \quad \cancel{9}$ $1 \quad 9$ $4k = 36 \times 9$ $\cancel{4} \quad \cancel{4}$ $K = 81$ $\begin{array}{r} 8 \ 1 \\ -3 \ 6 \\ \hline 4 \ 5 \text{boys} \end{array}$	B ₁ B ₁	For total number of pupils. For 45 boys	
10.	P.7	<p>Sum of 2 int \angles = 10 pp ext \angle</p> $\begin{cases} z = 90^\circ + 55^\circ \\ z = 145^\circ \end{cases}$	B ₁ B ₁	For the 55° (alt inks) For 145°	Make a review on angles of parallel lines and apply them correctly.
11.	P.7	$3w = 4 \pmod{7}$ $3w = 4 + 7 \pmod{7}$ $3w + = 11 \pmod{7}$ $3w = 11 + 7 \pmod{7}$ $\cancel{3} \quad \cancel{3}$ $3w = 18 \pmod{7}$ $3 \quad 3$ $W = 6 \pmod{7}$	M ₁ A ₁	For the method For the answer	Revisit application of integers.
12.	P.6	$1 \text{ dozen} = 12 \text{ items}$ $\cancel{3} \quad \cancel{3}$ $3 \times 12' \text{ items}$ $\cancel{4} \quad \cancel{4}$ $= 9 \text{ books}$ <p>9 books cost sh. 13,500</p> $\begin{array}{r} 13500 \\ \times 9 \\ \hline 13500 \end{array}$ <p>1 book costs sh. 1350</p> $\begin{array}{r} 1350 \\ \times 9 \\ \hline 13500 \end{array}$ <p>Sh. 1,500</p> <p>Profit = sh. 2,200</p> $\begin{array}{r} -1500 \\ \hline 700 \end{array}$ <p>sh. 700</p> $\begin{array}{r} \times 9 \\ \hline 6300 \end{array}$	M ₁ M ₁ A ₁	For the method For sh. 6300	<p>Accept:</p> <p>1 dozen = 12 books</p> $\begin{array}{r} 12 \\ \times 9 \\ \hline 108 \end{array}$ <p>sh. 2200</p> $\begin{array}{r} 2200 \\ \times 9 \\ \hline 19800 \end{array}$ <p>profit = S.P - B.P</p> $\begin{array}{r} 19800 \\ -13500 \\ \hline 6300 \end{array}$
13.	P.7	$6 < 2p < 10$ $\frac{3}{2} < p < 5$ $\cancel{2} \quad \cancel{2} \quad \cancel{2}$ $3 \leq p < 5$ <p></p> <p>S.S = {3, 4}</p>	B ₁ B ₁	For $3 \leq p < 5$ For the solution set	Make a review on solving inequalities and their solution sets.

14.	P.6		B ₁ B ₁	For the arc For 60°	Emphasise accuracy and neatness.								
15.	P.6	20.53	B ₂	For the answer	Encourage learners to identify the place values								
16.	P.5	<p>60 minutes = 1 hour</p> <p>1 minute = $\frac{1}{60}$ hours</p> <p>90 minutes = $\left(\frac{1}{60} \times 90\right)$ hours</p> <p>= $\frac{3}{2}$ hours</p> <p>= $1\frac{1}{2}$ hours</p> <table border="1"> <tr> <td>Hours minutes</td> <td></td> </tr> <tr> <td>4 : 15</td> <td>1h = 60min</td> </tr> <tr> <td>-1 : 30</td> <td>15 + 60 = 75min</td> </tr> <tr> <td>2 : 45pm</td> <td></td> </tr> </table>	Hours minutes		4 : 15	1h = 60min	-1 : 30	15 + 60 = 75min	2 : 45pm		B ₁	For $1\frac{1}{2}$ hours	Operate and regroup time where applicable.
Hours minutes													
4 : 15	1h = 60min												
-1 : 30	15 + 60 = 75min												
2 : 45pm													
			B ₁	For the answer									
17.	P.6	<p>Ug sh. 3650 = 1 US dollar</p> <p>1 Ug sh = $\frac{1}{3650}$ US dollar</p> <p>$2,190,000 = \left(\frac{1}{3650} \times 2190,000\right)$</p> <p>= $\frac{2190000}{365}$ US dollar</p> <p>= 600 US dollars</p>	M ₁ A ₁	For the method For the answer	Help candidates on when to divide and when to multiply.								
18.	P.7	<p>$C = \pi d$</p> <p>= $22 \times 14\text{cm}$</p> <p>= $22 \times 14 \times \frac{2}{7}$</p> <p>= 44cm</p> <p>The string = $44 \times 100\text{cm}$</p> <p>= 4400cm</p>	M ₁ A ₁	For the circumference For 4400cm	Make a review on revolutions on circular objects and apply correctly.								
19.	P.7	$\frac{b^4 \times b^3}{b^5}$ $\frac{b^{4+3}}{b^5}$ $b^7 \div b^5$ b^{7-5} b^2	M ₁ A ₁	For the method For the answer	Accept: $\frac{b^4 \times b^3}{b^5}$ $b \times b \times b \times b \times b \times b \times b$ $= b^2$								
20.	P.6		B ₂	For the correct shading.	Make a review on set description.								

SECTION B

21.	P.6 a)	Cowpeas $\text{Sh.} 4,000 \times 2$ $\text{Sh.} 8,000$ rice $1000\text{g} = \text{kg}$ $\underline{2500} \times \text{sh.} 600$ $\cancel{1000}$ $25 \times \text{sh.} 600$ Oranges $\left[\begin{matrix} 12 \\ 4 \end{matrix} \right] \text{ heaps}$ 3 heaps $3 \times \text{sg.} 1500$ $\text{Sh.} 4500$ Total bill $\text{sh.} 8,000$ $\text{sh.} 4,500$ $\text{sh.} 15,000$ $+ \text{sh.} 10,000$ $\text{sh.} 37500$	B ₁	For each correct product	Award B ₀ minus without the units.
		$\text{sh.} 37500$ b) $100\% - 5\% = 95\%$ $\underline{95} \times \text{sh.} 37500$ $\cancel{100}$ $= 95 \times \text{sh.} 375$ $= \text{sh.} 35,625$	M ₁	For the method	
22.	P.7 a)	$33\frac{1}{3}\%$ $\frac{100}{3} \div \frac{100}{3} = 1$ $\frac{3}{3} - \frac{1}{3} = \frac{2}{3}$ $\frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$ Hockey	B ₁	For $\frac{1}{3}$	Revisit application of fractions involving taps etc.
		$\frac{2}{15}$ b) Fraction for Tennis ball $1 - \left(\frac{1}{3} + \frac{4}{15} \right)$ $1 - \frac{5}{15} + \frac{4}{15}$ $\frac{15}{15} - \frac{9}{15} = \frac{6}{15}$ $= \frac{2}{5}$	B ₁	For $\frac{2}{5}$	
		$\text{Let the number of pupils be } K.$ $2k = 30$ 5 $\cancel{15} \times 2k = \cancel{15} \times 5$ $2k = \frac{30}{2} \times 5$ $K = 75 \text{ pupils}$	M ₁	For the method	
			A ₁	For the answer	

23.	<p>P.3 a)</p> <table border="1"> <tr><td>1</td><td>f</td><td>0</td></tr> <tr><td>3</td><td>2</td><td></td></tr> <tr><td>↓</td><td></td><td>ones</td></tr> <tr><td></td><td></td><td>five</td></tr> <tr><td></td><td></td><td>five fives</td></tr> </table> <p>b)</p> <table border="1"> <tr><td>1</td><td>f</td><td>0</td></tr> <tr><td>3</td><td>2</td><td></td></tr> <tr><td>↓</td><td></td><td>five</td></tr> <tr><td></td><td></td><td>$3 \times 10_{\text{five}} \times 10_{\text{five}}$</td></tr> <tr><td></td><td></td><td>= 300_{five}</td></tr> </table> <p>Alternatively:</p> <table border="1"> <tr><td>1</td><td>f</td><td>0</td></tr> <tr><td>3</td><td>2</td><td>1</td></tr> <tr><td>↓</td><td></td><td></td></tr> <tr><td></td><td></td><td>$3 \times 5 \times 5$</td></tr> <tr><td></td><td></td><td>= 75_{five}</td></tr> </table> <p>c)</p> <table border="1"> <tr><td>2</td><td>1</td><td>0</td></tr> <tr><td>3</td><td>2</td><td>1</td></tr> </table> <p style="text-align: center;"><small>base</small></p> <p>$(3 \times 10^2)_{\text{five}} + (2 \times 10^1)_{\text{five}} + (1 \times 10^0)_{\text{five}}$</p>	1	f	0	3	2		↓		ones			five			five fives	1	f	0	3	2		↓		five			$3 \times 10_{\text{five}} \times 10_{\text{five}}$			= 300_{five}	1	f	0	3	2	1	↓					$3 \times 5 \times 5$			= 75_{five}	2	1	0	3	2	1	B ₁	For the answer	Apply related questions to other bases as well.
1	f	0																																																					
3	2																																																						
↓		ones																																																					
		five																																																					
		five fives																																																					
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2	1	0																																																					
3	2	1																																																					
24.	<p>P.7</p> <p>a)</p> <p>$K + K + 140^\circ = 180^\circ$</p> <p>$2k + 140^\circ - 140^\circ = 180^\circ - 140^\circ$</p> <p>$2k = 40^\circ$</p> <p>$z_k = 20^\circ$</p> <p>$Z = 2$</p> <p>$K = 20^\circ$</p> <p>$\Delta e = 20^\circ \text{ alt int } \angle s$</p> <p>b)</p> <p>Angle n</p> <p>$n + 40^\circ + 40^\circ = 180^\circ$</p> <p>$n + 80^\circ - 80^\circ = 180^\circ - 80^\circ$</p> <p>$n = 100^\circ$</p>	B ₁	For the equation For 20°	Revisit angle properties on parallel lines.																																																			

25.	P.7a)	$\begin{aligned} 2(b+4) &= b+10 \\ 2b+8 &= b+10 \\ 2b+8-8 &= b+10-8 \\ 2b &= b+2 \\ 2b-b &= b-b+2 \\ b &= 2 \end{aligned}$	M ₁	For collecting like terms For the answer	Expose candidates to a variety of applications in algebra.						
	b)	Let the bucket be X. <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <th>basin</th> <th>bucket</th> <th>Source pan</th> </tr> <tr> <td>sh.3000+x</td> <td>x</td> <td>$\frac{2x}{5}$</td> </tr> </table>	basin	bucket	Source pan	sh.3000+x	x	$\frac{2x}{5}$			Follow through and help candidates to reason such questions.
basin	bucket	Source pan									
sh.3000+x	x	$\frac{2x}{5}$									
		$\begin{aligned} \text{sh.}3,000 + x + x + \frac{2x}{5} &= \text{sh.}33,000 \\ 5 & \\ \text{sh.}3,000 - \text{sh.}3,000 + 2x + \frac{2x}{5} &= \text{sh.}33,000 - 3000 \\ 5 & \\ \frac{2x}{1} + \frac{2x}{5} &= \text{sh.}30,000 \\ 1 & 5 \\ x5 & \\ 5 \times 2x + \frac{2x}{1} &= \text{sh.}30,000 \times 5 \\ 1 & 5 & 1 \end{aligned}$	B ₁	For the equation							
		$\begin{aligned} 10x + 2x &= \text{sh.}150,000 \\ 12x &= \text{sh.}150,000 \\ 12 & \\ x &= \text{sh.}12500 \\ \text{A bucket costs sh.}12500 \end{aligned}$	M ₁	For the method							
		$\begin{aligned} 12x &= \text{sh.}150,000 \\ 12 & \\ x &= \text{sh.}12500 \\ \text{A bucket costs sh.}12500 \end{aligned}$	A ₁	For the answer							
26.	P.7a)	$n(E) = 48 \quad n(S) = W$	B ₁	For 12	Make a review on application of sets with different approaches and make practice.						
		$\begin{array}{r} 16 \\ 1 \times 48 \\ -3 \\ \hline 16 \end{array}$	B ₁	For 24							
		$\begin{array}{r} 48 \\ -16 \\ \hline 32 \end{array}$	B ₁	For 30							
		$\begin{aligned} W &= 16 + 18 \\ W &= 34 \end{aligned}$									
	b)	$\begin{aligned} n(E) &= 32 + 18 \\ &= 52 \\ n(s.s) &= 48 + 18 = 66 \\ \text{probability} &= \frac{n(E)}{n(s.s)} \\ &= \frac{52}{66} \end{aligned}$	B ₁	For 54							
			B ₁	For $\frac{52}{54}$							

27	P.7a)	<table border="0"> <tr> <td>Hours min</td><td></td></tr> <tr> <td>11 : 15am</td><td>1h = 60min</td></tr> <tr> <td>-9 : 45</td><td>$60 + 15 = 75\text{min}$</td></tr> <tr> <td>1 : 30</td><td>$\begin{array}{r} 75 \\ -45 \\ \hline 30 \end{array}$</td></tr> </table> <p>It is $1\frac{1}{2}\text{ hours}$</p> $\text{Distance} = S \times T$ $= \frac{60\text{km}}{1\text{hour}} \times 1\frac{1}{2}\text{hours}$ $= 60\text{km} \times \frac{3}{2}$ $= 90\text{km}$	Hours min		11 : 15am	1h = 60min	-9 : 45	$60 + 15 = 75\text{min}$	1 : 30	$\begin{array}{r} 75 \\ -45 \\ \hline 30 \end{array}$	M ₁	For the method	Help candidates to interpret and analyse related questions.
Hours min													
11 : 15am	1h = 60min												
-9 : 45	$60 + 15 = 75\text{min}$												
1 : 30	$\begin{array}{r} 75 \\ -45 \\ \hline 30 \end{array}$												
	b)	$\text{Average speed} = \text{T.D.C}$ $T.T.T$ $= 90\text{km} + 90\text{km}$ $= [1\frac{1}{2} + 1 + 3]\text{hours}$ $= \frac{180}{5}\text{km}$ $= 180\text{km} \div \frac{5}{2}\text{hours}$ $= \frac{180}{1} \times \frac{2}{9}\text{hours}$ <p>Average speed = 36km/h</p>	B ₁	For 3 hours									
			M ₁	For the method									
			A ₁	For the answer									
28.	P.7 a)	$VW = (35 \times 22 \times 50)$ $VZ = \frac{22}{17} \times \frac{1}{2} \times \frac{1}{2} \times 10^3$ $= 5 \times 2 \times 10$ $= 100 \text{ tins}$	B ₁	For substitution	Make a review on volume and capacity of solid figures.								
			M ₁	For the method									
	b)	$\text{Sh. } 25,000 \times 100$ $\text{Sh. } 25,000$	M ₁	For multiplies									
			A ₁	For answer									
29.	P.7 a)	$394.72 \div 10 = 39.472$ $39.472 \div 10 = 3.9472$ 3.9472×10^2	M ₁	For the method	Make enough practice on standard form and indices.								
	b)	$3^{2k} \times 3^2 = 81$ $3^{2k} \times 3^2 = 3^4$ $2k + 2 = 4$ $2k + 2 - 2 = 4 - 2$ $2k = 2$ $2 \quad 2$ $K = 1$ $\begin{array}{r} 3 \mid 81 \\ \quad 27 \\ \quad 9 \\ \quad 3 \\ \hline \quad 1 \end{array}$ 3^4	M ₁	For the method									
			A ₁	For the answer									

				Emphasise accuracy and neatness.
30.	<p>P.7</p> <p>Y</p> <p>S₁</p> <p>K</p> <p>60°</p> <p>240°</p> <p>8cm</p> <p>300°</p>	<p>For the sketch</p> <p>For bearing of 60°.</p> <p>C₁ For bearing of 300°</p> <p>L₁ For joining</p>		
	<p>Drawing Length:</p> <p>W to K = $\left(\frac{8}{10}\right)$ cm 8 cm</p>	<p>W to Y = $\left(\frac{6}{10}\right)$ cm 6 cm</p>		
	<p>N</p> <p>Y</p> <p>N</p> <p>6cm</p> <p>N</p> <p>8cm</p> <p>60°</p> <p>300°</p>			
b)	12.3 ± 0.1 cm 123km	B ₁	For shortest distance	
31. P.6 a)	<p>1 picto rep 10 tomatoes</p> <p>2 $\frac{1}{2}$ pictos rep $2\frac{1}{2}$</p> <p>$\underline{5} \times 10$ tomatoes</p> <p>$\cancel{2}_1$</p> <p>= 25 tomatoes</p>	B ₁	For the answer	Emphasise the use of the scale.
b)	<p>Friday</p> <p>6 x 10</p> <p>60 tomatoes</p> <p>Tuesday</p> <p>4 x 10</p> <p>40 tomatoes</p> <p>6 0</p> <p>- 4 0</p> <p>20 more tomatoes</p>	B ₁	For 60	
		B ₁	For 20	

	c)	<p>M_C</p> <p>$3 \times 10 \text{ tomatoes}$ 30 tomatoes $\text{Total number of tomatoes}$ $(20 \times 10) \text{ tomatoes}$ 200 tomatoes $\underline{30} \times 100\%$ 300 $\underline{30} \times 100\%$ $2,00$ $= 15\%$</p>	M_1	For the method	
32.	P.6 a)	$\begin{array}{r} 0.24 + 0.06 \\ 1.2 \times 0.01 \\ \\ 0.24 \\ + 0.6 \\ \hline 0.84 \end{array}$ $0.84 \div 1.2 \times 0.01$ $\frac{84}{100} \div \left(\frac{12}{10} \times \frac{1}{100} \right)$ $\frac{84}{100} \times \frac{10}{12} \times \frac{100}{1}$ $\frac{100}{100} \quad \frac{12}{1} \quad 1$ $= 70$	B_1	For 0.84	
	b)	$\begin{array}{l} 1\frac{1}{6} \times 1\frac{1}{7} \div 2\frac{1}{3} \\ \frac{7}{6} \times \left(\frac{8}{7} \div \frac{7}{3} \right) \text{ DMAS} \\ \frac{1}{6} \times \frac{4}{7} \times \frac{3}{1} \\ \frac{1}{1} \times \frac{4}{7} \times \frac{1}{1} \\ = \frac{4}{7} \end{array}$	M_1	For the method	
			A_1	For the answer	